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PATENT  
0459-0303P

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## IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant: Flemming F. STENGAARD et al. Conf.: 2909  
Appl. No.: 09/284,863 Group: 1733  
Filed: June 7, 1999 Examiner: YAO, S  
For: POLYOLEFIN FIBRES AND METHOD FOR THE  
PRODUCTION THEREOF

RECEIVED  
SEP 13 2002  
TC 1700 MAIL ROOM**DECLARATION UNDER 37 CFR §1.132**

Assistant Commissioner for Patents  
Washington, DC 20231

29 August 2002

I, Flemming F. STENGAARD, declare and state

- 1) I am a graduate of Technical University of Denmark and I received my degree in the year 1973.
- 2) I have been employed by FiberVisions a/s for 6 years as a Research and Development Engineer in the field of polyolefin fiber manufacture and technology.
- 3) I am familiar with the Office Action dated January 10, 2002 and US Patent No. 5,525,243 (Ross).
- 4) I am one of the inventors of the above-identified application.
- 5) All of the Experiments were performed by me or under my direct supervision.
- 6) Experiments

I performed the following experiments in order to compare the properties of the fibers and nonwovens obtainable according to the disclosure of Ross '243 and the fibers and nonwovens of the present invention.

Example VI of Ross '243

Component	% wt
(a) tridecyl stearate	45
(b) PEG 400	20
(c) K salt of aliphatic monohydric alcohol phosphate	10
(d) alcohol & acid ethoxylates and soap	20
(e) water	5

The components of Ross '243, Example VI, were indicated by their generic name. Thus for each of the components, I selected one of the commercial products most commonly used in the fiber industry. The components (c) and (d), however, were very generally defined in Ross '243, thus I choose to prepare two different compositions (Example VIa and Example VIb, see below) in order to verify that the actual selection of commercial products had only little influence on the overall properties of the resulting fibers and nonwovens.

The compositions prepared were as follows:

Components (trade name)	Ex. VIa % wt	Ex. VIb % wt
(a) tridecyl stearate (Lurol PP971 <sup>1)</sup> )	45	45
(b) PEG 400 (Pluriol E 405 <sup>2)</sup> )	20	20
(c) butylphosphate, K salt (Lurol PP920 <sup>1)</sup> )	10	
(c)+(d) ethoxylated alcohol phosphate, fatty acid ethoxylate (Silastol GF 18 <sup>3)</sup> )		30
(d) ethoxylated Castor oil (Silastol 360 <sup>3)</sup> )	20	
(e) water	5	5

1) Supplier: Goulston Technologies, Inc.

2) Supplier: BASIS Kemi A/S

3) Supplier: Schill&Seilacher Aktiengesellschaft

2.2 dtex fibers were produced on our pilot line (see Fiber data) and carded on our pilot card (see Nonwoven data) according to the procedure set forth in the present patent application.

The two compositions from Ross '243 were compared with the fibers and nonwovens of Example 5 of the present patent application.

The obtained fibers and nonwovens were tested in four different tests, namely the Sinking Time test, the  $WRC_{\text{fiber}}$  test, the Strike Through test and the  $WRC_{\text{nonwoven}}$  test, respectively, i.a. in order to determine the hydrophobicity/hydrophilicity of the fibers and nonwovens thereof.

The Sinking time test is a commonly used test to evaluate the hydrophobicity/hydrophilicity of fibers. The test is based on Edana test Method "Edana 10: Nonwoven absorption". It should be noted that sinking time measurements are normally not performed for strictly hydrophobic fibers due to very high or no sinking (> 24 hours)

The  $WRC_{\text{fiber}}$  is referred to in the specification, page 16, lines 6-16.

The Strike through test is a commonly used test to evaluate the hydrophobicity/hydrophilicity of nonwovens. The test is described in Edana test Method "Edana 150: Nonwoven Coverstock Liquid Strike Through Time".

The  $WRC_{\text{nonwoven}}$  is described in the specification, page 18, lines 9-34.

## Results

<u>Fiber data</u>	Ex. VIa	Ex. VIb	Ex. 5
% FOY (finish on fiber) (%)	0.33	0.31	0.3
Sinking time (sec)	18	4	>24 hours
$WRC_{\text{fiber}}$ (cm)	5.8	4.9	18.95
<u>Nonwoven data</u>	Ex. VIa	Ex. VIb	Ex. 5
Weight (g/m <sup>2</sup> )	23.9	23.4	23.8
Strike through (sec)	6.5	3.9	> 300
$WRC_{\text{nonwoven}}$ (cm)	2.2	1.4	5.7

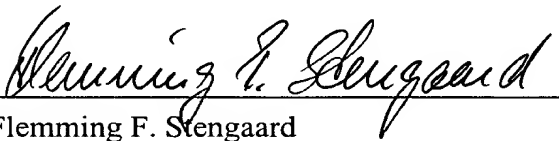
The data clearly demonstrate the differences between the fibers and nonwovens obtainable according to Ross '243 and the hydrophobic fibers and nonwovens as claimed in the instant patent application.

### **Conclusion**

The results from the comparative experiments clearly shows that the fibers obtainable according to Ross '243 are not hydrophobic fibers but rather fibers with hydrophilic character as will be obvious from the very low sinking times and WRC values. Also the nonwovens obtainable according to Ross '243 are hydrophilic rather than hydrophobic.

Thus, the results of the instant invention are unexpectedly superior with respect to hydrophobicity to the closest Example present in Ross '243 (US Patent No. 5,525,243).

I hereby declare all statements made herein of my own knowledge are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment or both under 18 USC §1001, and that such willful false statements may jeopardize the validity of the application or any patent that issues therefrom.

  
Flemming F. Stengaard

  
29 August 2002